

## WHAT IS CLAIMED IS:

1. A system for verifying data in a shadow memory, comprising:

a shadow memory initializer operable to detect an initialization event and to initialize a shadow memory based on the initialization event, the shadow memory comprising shadow data; and

a shadow memory verifier operable to detect a verification event and to verify the shadow data based on the verification event.

2. The system of Claim 1, the shadow memory initializer operable to initialize the shadow memory by calculating and storing original verification data for the shadow memory.

3. The system of Claim 2, the shadow memory verifier operable to verify the shadow data by calculating current verification data and comparing the current verification data to the original verification data, the shadow data verified when the current verification data matches the original verification data and the shadow data rejected when the current verification data fails to match the original verification data.

4. The system of Claim 3, the initialization event comprising one of the system being powered up and the shadow data being rejected.

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5. The system of Claim 1, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges passing.

6. A system for verifying data in a shadow memory, comprising:

a main memory operable to store main data persistently;

5 a shadow memory operable to store shadow data temporarily, the shadow data comprising a copy of the main data;

a shadow memory initializer operable to detect an initialization event and to initialize the shadow memory based on the initialization event; and

10 a shadow memory verifier operable to detect a verification event and to verify the shadow data based on the verification event.

7. The system of Claim 6, the shadow memory initializer  
15 operable to initialize the shadow memory by calculating and storing original verification data for the shadow memory.

8. The system of Claim 7, the shadow memory verifier operable to verify the shadow data by calculating current verification data and comparing the current verification data to the original verification data, the shadow data verified when  
5 the current verification data matches the original verification data and the shadow data rejected when the current verification data fails to match the original verification data.

9. The system of Claim 8, the initialization event  
10 comprising one of the system being powered up and the shadow data being rejected.

10. The system of Claim 7, the shadow memory initializer operable to store the original verification data in the shadow  
15 memory.

11. The system of Claim 6, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges  
20 passing.

12. The system of Claim 6, the main memory comprising an EEPROM and the shadow memory comprising a RAM.

13. A method for verifying data in a shadow memory, comprising:

initializing a shadow memory, the shadow memory comprising shadow data;

5 detecting a verification event; and

verifying the shadow data based on the verification event.

14. The method of Claim 13, further comprising detecting  
10 an initialization event, initializing the shadow memory comprising initializing the shadow memory based on the initialization event.

15. The method of Claim 13, initializing the shadow memory  
15 comprising copying main data stored in a main memory into the shadow memory, calculating original verification data, and storing the original verification data.

16. The method of Claim 15, verifying the shadow data  
20 comprising calculating current verification data and comparing the current verification data to the original verification data.

17. The method of Claim 16, further comprising verifying the shadow data as valid when the current verification data matches the original verification data.

5        18. The method of Claim 16, further comprising rejecting the shadow data when the current verification data fails to match the original verification data.

10       19. The method of Claim 18, the initialization event comprising one of the system being powered up and the shadow data being rejected.

15       20. The method of Claim 13, the verification event comprising one of a read request being received, a specified clock edge occurring, and a specified number of clock edges passing.